

M2D2 Program Lands State Grant

Center Will Help Companies Commercialize Products

UMass Lowell and the John Adams Innovation Institute (of the Massachusetts Technology Collaborative, MTC) recently announced a \$500,000 grant for the Massachusetts Medical Device Development (M2D2) center.

M2D2, directed by Prof. Stephen McCarthy of the Plastics Engineering Department in a joint venture with the UMass Medical School in Worcester (Sheila Noone, director of clinical research at Worcester, is co-director of the center), will use the funds to help entrepreneurs move new medical device ideas from patent into production. Many small medical device companies with promising innovations face a major obstacle as they search for funding. With venture capital getting harder to obtain, entrepreneurs need help to develop their patented ideas into

prototypes for federal review and to interest investors.

McCarthy hopes to support up to 11 start-up companies each year with product evaluation, business advice and product prototyping, leveraging the state funds. After a smaller, \$150,000 grant last February from the John Adams Innovation Institute, VasoTech (maker of a biodegradable, drug-eluting heart stent) worked with M2D2 and was awarded \$1.2 million by the National Institutes of Health.

"We have tested our concept—that M2D2 can help inventors of new medical devices secure additional funding to develop their ideas. The new funds will put M2D2 on the fast track, directly assisting companies with product prototyping and testing," said McCarthy.



▲ Patrick Larkin, director of the John Adams Innovation Institute, with, from left, Rep. Kevin Murphy; Thomas Chmura, UMass vice president of Economic Development; and Prof. Stephen McCarthy, co-director of M2D2.

At the ceremony, Chancellor Marty Meehan emphasized UMass Lowell's mission of working hand-in-hand with industry. He said, "M2D2 is UMass Lowell's latest contribution to growing the life sciences economy. We are helping new medical device ideas get from patent to production, and in turn helping the state create new products and jobs."

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UML Researcher's Work Makes List of 100 Top Science Stories

Ranking Makes Cover of Discover Magazine's January Issue

Since the 1960s, scientists have known that during a severe geomagnetic storm, the Earth's magnetosphere—the region around our planet controlled by its magnetic field—can generate highly energetic electrons capable of crippling orbiting satellites and posing a radiation hazard to spacewalking astronauts. Scientists have wondered how these "killer" electrons could attain such high energies and travel nearly at the speed of light.

In June last year an international team of researchers led by Dr. Qiugang Zong of the UML Center for Atmospheric Research (CAR) published findings that finally shed light on this mystery. Their discovery ranked No. 37 in Discover magazine's 100 Top Science Stories of 2007. UMass Lowell is the only public university in New England to be featured on the list, which is the cover story for the January 2008 issue of Discover, the nation's leading monthly, popular magazine on science and technology, with a circulation of more than 700,000.

Zong and his colleagues, who include CAR co-director Paul Song and research assistant Xuzhi Zhou, used data obtained by the European Space Agency's CLUSTER spacecraft in the aftermath of an intense geomagnetic storm on Oct. 31, 2003. During such a storm, the solar wind—a continuous high-speed stream of charged particles from the sun—impacts and compresses the daytime side of Earth's magnetosphere, triggering instabilities along the magnetosphere's boundary. These instabilities create Ultra Low Frequency electromagnetic waves, which in turn produce

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Inauguration Marks New Chapter

Week of Festivities to Highlight UML's Strengths

The inauguration of Chancellor Marty Meehan will celebrate a new chapter in the history of UMass Lowell, while at the same time highlighting the many strengths of the University. A week-long series of academic, social and fundraising events will culminate with the official inaugural ceremony at 10 a.m. on Friday, April 4, in the Recreation Center.

The inaugural theme, "Building a New Vision Together: Excellence Through Innovation," will be reflected in a number of academic events during the week. Forums being developed include multi-disciplinary investigations of climate change, peace and conflict studies, entrepreneurship and clean technologies, homeland security from a gender and



justice perspective, and a panel discussion featuring activist and author Jonathan Kozol. Other seminars and exhibits will take place around campus, including a special showing of Chancellor Meehan's historical papers and materials from his Congressional archives. Programming proposals were solicited by the Inaugural Steering Committee in January.

Pre-inauguration festivities will include a welcoming barbeque and concert for students on Tuesday, April 1. The campus and community are invited to a fundraising reception and concert Thursday, April 3 at Durgin Hall starting at 5 p.m. Faculty

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Toys for Local Zoos' Big Cats Created

Designed to Entertain Lions, Tigers, Leopards, Jaguars and Cougars

It wasn't just youngsters who received toys this past Christmas. Even the "big cats" at Zoo New England's Franklin Park Zoo in Boston and Stone Zoo in Stoneham got their share of presents, thanks to freshman engineering students at UMass Lowell.

Nearly 400 students participated in a collaborative service-learning project with Zoo New England as part of the University's Introduction to Engineering course, taught by Prof. David Kazmer and Dr. Stephen Johnston of the UML's Department of Plastics

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M2D2 Program Lands State Grant

Massachusetts Sen. Steven Panagiotakos, chair of the Senate Ways and Means Committee, reiterated the point, saying, "We in the legislature are responsible for making sure our money leads to getting jobs. These types of investments get us in a position to do that."

Massachusetts Rep. Kevin Murphy, chair of the joint Committee on Higher Education, said, "Companies come here, not for our climate or our natural resources, but for the minds of our students and our talented workforce, to create high quality jobs."

"Competition in the innovation economy is now genuinely global—from research to manufacturing to the capital markets that finance the risk taking," said Patrick Larkin, director of the Innovation Institute. "This award can strengthen Massachusetts' conditions for continued success in medical devices."

"UMass President Jack Wilson provided the original seed funding to launch this initiative two years ago through his Science and Technology Fund, and he could not be more pleased with the return on the investment in M2D2," said Thomas Chmura, vice president for economic development. "UMass is committed to engaging the life sciences sectors across the state, and M2D2 targets an important one—the medical devices industry."

"MassMEDIC strongly supports this new M2D2 initiative," said Thomas Sommer, president of MassMEDIC, the industry trade association, in a statement. "We look forward to partnering more fully with M2D2 to maintain a thriving medical device industry in the state."

Representatives of the medical device industry, area legislators, and UMass Worcester officials participated in the announcement.

—SS



▲ The M2D2 working team includes, from left, Hooks Johnston, chair of the steering committee; Mark Trusheim, president of Co-Bio Consulting; Ruth Dubey, M2D2 administrator; Anne-Marie Baker, M2D2 industry liaison; Renae Lias Claffey, director of Government Relations; Sheila Noone, clinical trials director, UMass Medical School; Prof. Stephen McCarthy, M2D2 co-director; and Prof. Kathleen Doyle, chair of the Clinical Laboratory and Nutritional Sciences Department.

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Inauguration Marks New Chapter

and students will share the stage with a special guest performer at a 6 p.m. concert.

Capping off pre-inaugural festivities will be a gala black-tie fundraising celebration and dinner at Allen House on Thursday at 7:30 p.m. All proceeds will go to a scholarship fund for students.

The actual inauguration ceremony on Friday, April 4, will begin at 10 a.m. at the Recreation Center and will be followed by an all-campus luncheon. Classes will be in session all week, but faculty are encouraged to allow students to participate in the many inaugural activities.

Corporate sponsors will be solicited for all events to reduce costs and increase proceeds available for scholarships. The Inaugural Steering Committee, chaired by Associate Chancellor Jacqueline Moloney and Chief Public Affairs Officer Patricia McCafferty and made up of representatives from all the colleges and key offices, will firm up the schedule of events in the next month.

For up-to-date information, visit the official inaugural website: www.uml.edu/inauguration.

—KO'R

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Toys for Local Zoos' Big Cats Created

Engineering. The project required students to develop safe, innovative enrichment devices that would encourage the cats to interact with their environment in ways similar to how they would in the wild.

To get started, the class went on a field trip to Franklin Park in early October for a "paws-on" look at the cats residing in the zoo's Kalahari Kingdom and Tiger Tales. The zoo staff discussed their needs with the class and explained the purpose of enrichment. The students then brainstormed unique enrichment ideas, formed teams and went to work designing and building the devices.

At UMass Lowell in December, the teams gave demonstrations of their finished projects to University faculty, staff and administrators as well as officials of Zoo New England. More than 30 of the teams' projects were turned over to the zoo. These ranged from simple devices such as a large, hard-plastic ball mounted on a spring to more complex setups such as an artificial rain machine. The students incorporated treats, exotic sounds and scents, fog, soap bubbles, streams of water and various physical shapes and textures into their designs to stimulate the cats' senses.

"Overall, I was overwhelmed by the results of this collaboration," said John Linehan, president and CEO of Zoo New England.



▲ David Kazmer, left, John Linehan, center, and Stephen Johnston.

"While there was a broad range in the creativity and workmanship, a number of the devices are 'ready for prime time.' Some of the concepts displayed incredible creativity."

Johnston was enthusiastic about the results. "The project was a great success," he said. "The effort and resourcefulness that the students put forth were truly awesome, and you could actually feel the excitement in the workshop during the final week of construction."

"The students had a budget of only \$10 per person," Kazmer explained. "They had three weeks to design the enrichment devices and another three weeks to actually build them. It was interesting that many of the best projects relied heavily on free or donated materials, such as logs, scrap metal and used drums."

The devices will likely be introduced to the cats over a period of time, some sooner and others later, depending on the zoos' resources and the amount of preparation needed (for example, pouring concrete for foundations). "Many will have to wait for spring, but others will be put to use sooner," said Linehan.

"I've supplied a webcam that the zoo may install so the students can see their work in action," said Kazmer.

"While the main targets for this project were lions and tigers, many of these designs will work for other cats such as leopards, jaguars and cougars, and even canids, or members of the dog family," said Linehan. "One of the keys to successful enrichment is that the toys not be left in the animals' environment continuously. Therefore, as practical, many of these devices will be disinfected and rotated between species and, in fact, between zoos."

—EA



▲ Student Joseph Fournier demonstrates the "Ball on a Spring" device that he and classmate Louay Ayoub created for the zoos' big cats.

UML Team Presents Results of Health-Care Study

Hundreds of Pediatric Patients Benefit

UMass Lowell experts recently presented findings from a two-year, EPA-funded study that examined the relationship between environment and health in order to improve diagnoses and prevention methods for children.

Prof. Stephanie Chalupka of the Department of Nursing was joined by Dr. David Turcotte from the Center for Family, Work and Community in relating the findings of their study, called "Strengthening the Capacity of Health Professionals Serving Minority and Low-Income Communities to Better Identify, Manage and Prevent Environmental Health Risks." Chalupka presented the results at the 135th Annual Meeting of the American Public Health Association in Washington, D.C. Turcotte and Chalupka met with U.S. Rep. Niki Tsongas during their visit.

The \$150,000 research, education and evaluation project delivered professional development programs to more than 500 pediatric providers, 40 nursing faculty members, 600 student nurses, reaching the health-care providers of more than 60,000



▲ Prof. Stephanie Chalupka, left, and Dr. David Turcotte met with U.S. Rep. Niki Tsongas during their recent trip to Washington.

children. Special training developed by Asst. Prof. Joel Tickner of the Work Environment Department helped community health outreach workers identify potential environmental health risks that can cause childhood illnesses.

"The project tailored programs for nurses and other health-care professionals throughout the New England region—focusing on exposure from industrial and environmental contaminants such as pesticides, brownfield sites, toxic cleaning products, pets, pests, and allergens—and provided strategies to reduce risks," says Turcotte. "We were also careful to ensure that educational materials emphasized both urban and rural health risks, and addressed the specific concerns of rural and urban health systems in low-income areas."

State Funds \$97K Grant to Make Lowell Seniors Count

The last time the number of Lowell's disparate (and growing) senior population was analyzed eight years ago, many elderly weren't included, because of language barriers and social isolation. This time, UMass Lowell Asst. Prof. Andy Hostetler wants to get it right, and ensure that critically needed services are made available to those in need.

Hostetler and his collaborators on the "Lowell Seniors Count"

project, including the Lowell Senior Center, Lowell Community Health Center and the City of Lowell's Division of Planning and Development, earned two grants totaling \$97,000 from the Massachusetts Department of Public Health. The grants will fund a comprehensive, interviewer-administered census covering health, well-being and safety/security issues.

"A diversity outreach coordinator and on-campus service learning volunteer coordinator will be hired, and headquarters will be established in each of Lowell's seven neighborhoods for a month at a time," says Hostetler. "The effort will

place hundreds of trained volunteers—including many bilingual representatives—directly within communities to increase participation and foster community outreach, especially among Southeast Asian, Portuguese, African and Latino populations."

The project, part of the City of Lowell's 10-year plan to end homelessness, will present a comprehensive portrait of Lowell seniors' health, well being, and quality of

life, to properly identify the resources and services needed to achieve what Hostetler terms "optimal aging" within the city.

"As a lifespan psychologist with a special interest in adulthood, this project is a terrific research opportunity with direct contact with local elderly people," says Hostetler.

Lowell Seniors Count will begin in May, during National

Older Americans Month. Sponsors and volunteers are needed.

For more information, contact Andrew_Hostetler@uml.edu.



▲ Asst. Prof. Andy Hostetler received a Massachusetts Department of Public Health grant to analyze Lowell's senior population.

Music for the Mind

Asperger's Intervention Program Developed at UML

For one mom, the first clue that something was wrong came when her infant daughter—still in a car seat—grew so frustrated that she had what appeared to be an epileptic seizure.

For another mother, it wasn't until her son had tremendous difficulty making friends that it became clear something was wrong.

For both of these parents, and thousands of others, the challenges facing their children are caused by Asperger's Syndrome, one of several pervasive development disorders on the autism spectrum.

First described in 1944 by Hans Asperger, an Austrian doctor, the disorder has only recently come into mainstream consciousness, with an estimated three of 10,000 people affected. Those with the disorder often have difficulty interacting with others, and generally do not make friends easily. They sometimes have trouble using facial expressions and understanding body language, and can have problems comprehending language in context. They typically

have a limited range of interests, and can develop an intense, almost obsessive focus in a few areas. Many are exceptionally talented, and most are highly verbal, making the diagnosis difficult until about age three.

For 14 high-functioning teens and young adults with autism spectrum disorders—mostly Asperger's—a recent intervention program developed by UMass Lowell Profs. Ashleigh Hillier of psychology and Gena Greher of music encouraged communication and creativity through an eight-week music program.

"We created a program we called 'SoundScapes,' which incorporated music to help people with Asperger's feel less stressed and more comfortable socially," says Hillier. Seven student volunteers from music education and psychology helped implement the sessions, which featured music-listening exercises, and technology-based creation activities. The program concluded with an exercise in which partici-

pants created and starred in their own videos, complete with music, which they shared with family and friends in a standing-room-only celebration.

"The friendships borne of this program are very special—many participants worked in teams, successfully communicating, compromising and creating," says Greher.

The videos—introduced by their creators to the crowded audience—included everything from the stampede scene from "The Lion King" to a moving rendition of Jean Valjean from "Les Miserables," delivered by a man who never had the confidence to sing in public before.

Pre- and post-program surveys grade the program a rousing success, with participants sharing their newfound social and creative confidence. "One of our participants said he'd wanted to be a producer, but didn't think he could do it. After the program, he wants to pursue it," says Hillier.

Hillier and Greher are pursuing external funding to continue and expand the program. For more information on SoundScapes, or other programs for adolescents and young adults on the autism spectrum, contact Ashleigh_Hillier@uml.edu, or Gena_Greher@uml.edu.



▲ Volunteers and participants in the "SoundScapes" music intervention program for people with Asperger's Syndrome.

Nursing Faculty Reach Out to Lawrence Students

Project Encourages Minorities to Consider Nursing Careers

In spite of the nationwide shortage of nurses, minorities and the economically disadvantaged are under-represented in the profession—depriving individuals of excellent job opportunities and the public of critically needed, trained nurses.

Nursing faculty in the School of Health and Environment at UMass Lowell aim to change that equation, with the help of a new grant program from the Executive Office of Health and Human Services in the Massachusetts Department of Public Health. The grant awards nearly \$69,000 to the project.

The project—"Bring Diversity to Nursing"—has the goal of recruiting under-represented minority and disadvantaged students—both male and female—to nursing through workshops to increase interest in and awareness of nursing careers.

The funded work is based on a pilot program of summer workshops created by Asst. Profs. Lisa Abdallah and Margaret Knight and delivered to middle and high school students in Lawrence and Lowell.

With funding through June 2010, the expanded program will include summer and after-school

programs for middle and high school students, and nursing career workshops. Offerings will be coordinated with the Graduate School of Education College Prep program, the Lowell and Lawrence high schools, and the Lawrence YMCA Teen Achievers Program. Prof. Karen Melillo, chair of the Nursing Department, is the principal investigator.

"All middle and high school students in Lowell and Lawrence schools will be encouraged to participate and we fully expect minorities to be highly represented," says Melillo about the selection process. Both male and female students will be sought, "with an emphasis on the technology, fast pace, strong science and intelligence required of nursing professionals, rather than an exclusive emphasis on caring and nurturing, as research has suggested that is not the strategy to encourage males to choose nursing as a career."

During the summer workshops, high school students worked with faculty in lab settings, learning about vital signs (on the simulation mannequin), basic medication calculations and the importance of math skills.

"The students found the workshop activities fascinating," says Abdallah. "Most of them had not been aware of the level of scientific knowledge and critical thinking skills that nurses need as they make decisions."



▲ UMass Lowell nursing faculty and state officials at the grant announcements for reducing racial and ethnic health disparities, were, from left, Asst. Prof. Lisa Abdallah; John Auerbach, commissioner of the Department of Public Health; Prof. Karen Melillo; Dr. JudyAnn Bigby, secretary of the Massachusetts Executive Office of Health and Human Services; and Assoc. Prof. Jacqueline Dowling.

Nanotechnology Companies Want Safety Roadmap

Quinn, Lindberg Lead Survey of Northeast Firms

U Mass Lowell researchers have conducted a new survey of New England-based nanotechnology companies, yielding information that can guide federal agencies and regulators.

The survey, funded by the Woodrow Wilson International Center for Scholars and The Pew Charitable Trusts, aimed at discovering how firms in almost every sector of the economy address the possible environmental, health and safety (EHS) impacts of new nanoscale materials and products. The survey found that these firms lack a clear roadmap of government EHS expectations and regulations for successful commercialization, as well as the information needed to meet those expectations.

Prof. Margaret Quinn of the Work Environment Department and doctoral candidate John Lindberg authored the report, drawn from an online survey distributed to 180 managers from nanotechnology firms in the Northeast. It included in-depth, follow-up interviews with 12 firms.

The region is home to one of the greatest concentrations of companies, universities, government laboratories and organizations working on nanotechnology in America. Last year, worldwide investment in nanotechnology topped \$12 billion dollars and the value of nanotechnology goods manufactured globally reached \$50 billion. By 2014, Lux Research projects that \$2.6 trillion in global manufactured goods will

incorporate nanotechnology, or about 15 percent of total global output.

But the survey indicates that as nanotech industrial and consumer applications enter the market, U.S. companies need more information and guidance from suppliers, trade associations, government regulatory bodies and others to manage risks effectively.

Lindberg and Quinn found that 80 percent of large firms were taking steps to manage nanotechnology EHS risks, compared to only 33 percent of small and micro companies and 12 percent of firms at start-up stage.

Lindberg, the principal investigator on the study, said, "Many smaller firms recognize the need to address risks proactively, but few have the resources to do so. The majority of employers rely on Materials Safety Data Sheets (MSDS) when working with nanomaterials; these do not always reflect the latest health and safety information. For example, the current MSDS for carbon nanotubes sold over the Internet treats them as graphite—the same material used in pencils—despite nanotubes bearing no more than a passing resemblance to this material. Clearly, companies are not being given the guidance they need."

The Project on Emerging Nanotechnologies is an initiative launched by the Woodrow Wilson International Center for Scholars and The Pew Charitable Trusts in 2005. It is dedicated to helping business, government and the public anticipate and manage possible health and environmental implications of nanotechnology.

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UML Researcher's Work Makes List of 100 Top Science Stories

killer electrons. Following a storm, electrons can be energized up to a million electron volts or more and accelerated up to 94 percent of the speed of light (more than 280,000 kilometers per second).

"Zong's study represents the first time this process has been observed directly," wrote contributor Stephen Ornes in Discover.

The team's findings were published in June 2007 in the "Geophysical Research Letters." Information gleaned from this research can help safeguard satellites and the health of astronauts aboard the International Space Station. People on the ground don't need to worry—Earth's magnetic field protects them from the harmful radiation effects of these killer electrons,

which is equivalent to getting zapped with five chest X-rays all at once.

—EA



▲ Discover magazine's January 2008 issue.

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Students Receive Scholarship Named for Alum Killed on Sept. 11



▲ James Sullivan of Westford and Michael Cappello, both accounting majors in UMass Lowell's College of Management, recently received \$3,000 Brian Kinney Memorial Scholarships. Kinney, a Lowell native who graduated from UML in 1995, was killed on Sept. 11, 2001. The scholarships are funded by a \$125,000 donation from accounting firm PriceWaterhouse Coopers, for whom Kinney worked. Shown at the scholarship presentation are, from left, Stephen Collins, chair of the Accounting Department; Sullivan; Alison Lewandowski of Lowell, Kinney's widow; Cappello; and Kathy Carter, dean of the College of Management

Rob Manning, Lowell Alumnus, Elected New UMass Board Chairman

Successor to Stephen Tocco Vows Renewed Bonds with Legislature, Alumni

U Lowell graduate Robert Manning, for the past 15 months a member of the 22-member UMass Board of Trustees, was elected its chairman in December.

Manning, named to the board by then-Governor Mitt Romney in the fall of 2006, is CEO, president and chief investment officer of MFS Investment Management in Boston, a financial firm with oversight of \$204 billion in assets. He has been with the company 23 years, since joining it as a junk-bond analyst three months out of school in the fall of 1984.

He replaces Stephen Tocco as chairman; both men were appointed to the board by the outgoing governor in September 2006.

Among his priorities as board chairman, he says, will be a closer working relationship with the Legislature to augment funding for capital improvements, and an increase in annual giving through a more active promotion of the bond between alumni and their schools.

"There are a lot of others like us out there," he said on a visit to the

Lowell campus last year. "A lot of alumni with the means to help—who probably would even *want* to help. They just don't realize how badly we need them."

Manning, who lives today in Swampscott, grew up in Methuen, as did his wife Donna. The two met in high school, attended ULowell together—where he majored in management and computer science, she in nursing—married, and went on to their respective careers. She is today an oncology nurse at BU Medical Center, and serves on the advisory board of the UMass Lowell Nursing Department. Together, the two have created the Donna and Robert Manning Endowed Scholarship Fund, which provides two \$3,000 scholarships annually to UMass Lowell students, one each from the College of Management and from the nursing program of the College of Health and Environment.

UMass Lowell Chancellor Marty Meehan has been a strong backer of Manning's elevation to the chairmanship. "I think Rob will be excellent," Meehan told reporters in December. "He has a passion for the University."



▲ Robert Manning

WUML 'Sunrise' Program Celebrates Third Anniversary

Public Radio Show Offers 'Thoughtful, Entertaining' Lineup

Sunrise, WUML's morning news and interview program, which features engaging conversations with local, state and national figures, has celebrated its third anniversary.

Launched on Jan. 2, 2005, the weekday 7 to 10 a.m. show offers what Executive Producer Christine Dunlap describes as "thoughtful, entertaining radio focusing on issues, events and people of the Merrimack Valley."

Equally important, she says, is that the program involves teaching and outreach, in keeping with the mission of the University.

"We teach students news writing, production, engineering and other broadcast work. They learn the technical job and how to be part of the team. The program may not sound complicated to the listener but it is. It's a ballet."

The outreach consists of interviews with people throughout the Merrimack Valley and elsewhere, including educators, writers, artists, civic leaders, sports figures and opinion makers in a variety of categories.

The guest list ranges from personalities such as author/historian Doris Kearns Goodwin and Massachusetts GOP Chairman Peter Torkildsen to former Red Sox General Manager Lou Gorman and Roger Cook of the "This Old House" program.

"We always try for the local angle," Dunlap says. "National Public Radio can do a great job reporting events from someplace like Iraq, but our story will involve some local man or woman who has been there. We feel we offer what no one else does."

Broadcasting on 91.5 FM with 1400 watts of power, the station's signal reaches an audience throughout the Merrimack Valley and beyond. The Sunrise program receives calls from as far west as Fitchburg, as far east as Haverhill, as far south as Waltham and as far north as Manchester, N.H.

It is estimated that some 5,000 people tune in to the program at least once weekly, with about 2,000 listening at any given time.

"Our listeners are, in general, highly educated and have higher-than-average household incomes," Dunlap says.

Dunlap co-hosts the show with Bob Ellis, a long-time radio personality in the Merrimack Valley. Henri Marchand is the producer. The engineer is Perry Persoff, and Tom Tiger produces many of the essays.

The program is underwritten by Lowell General Hospital, Gallagher and Cavanaugh LLP, Merrimack Valley Magazine, the Lowell Cultural Council and UMass Online.



▲ Christine Dunlap, right, executive producer of Sunrise, WUML's morning radio news and feature program, is joined at a holiday party celebrating the show's third anniversary by Julie Handy, left, and Michelle Davis of Lowell General Hospital's Community Health and Education Department. The hospital is one of the show's underwriters.

WUML 91.5 FM
Sunrise

UML Students Compete With Counterparts on Investment Project

Juniors and seniors in the College of Management are literally investing in the University's future.

Armed with \$25,000 from the UMass Foundation, 10 students are challenging counterparts at the Amherst, Boston and Dartmouth campuses in an investment competition designed to raise money for scholarships—and give the students real-world experience.

Working with the UML students are two alums who are top money managers and have served as directors of the UMass Foundation: Warren Isabelle, principal of Boston-based Ironwood Investment Management LLC, and John Kattar, managing director of investments for Eastern Investment Advisors, also in Boston.

"Keep an open mind. Have fun with it. Don't be afraid to make mistakes," Kattar advised the students. "If you don't make mistakes, you're not taking any chances."

"Don't be afraid to make mistakes. If you don't make mistakes, you're not taking any chances."

The students representing UMass Lowell were chosen on the basis of their grade-point average, and like the other UMass student teams, had \$25,000 to start the Student Managed Fund when they began the project Jan. 1. The performance of each group will be evaluated in June, and at the end of each academic year in the future, according to Ravi Jain, the assistant professor of finance coordinating the UML students' work.

The goal of the Student Managed Fund is not only to raise money for scholarships, but to give students real-life experience managing a stock portfolio.

Working with Jain to advise the students are Frank Andrews, director of undergraduate programs in the College of Management; Steven Freund, an assistant professor of finance; and Steven Rogers, a major gifts officer with University Advancement.

"Go for long-term, go for quality," Jain advised the group before they embarked on the project.

The students decide on their investment strategy and which stocks and other products they want to trade in, focusing on U.S. securities. The UMass Foundation makes the actual trades, according to Didier Bertola, the foundation's associate vice president and assistant treasurer.

"They should be aware of the tradeoffs and what this means to people" when it comes to the investment vehicles they choose, says Kattar.



▲ A group of 10 UMass Lowell students is competing with groups from students at the Amherst, Boston and Dartmouth campus to see who can get the best return on \$25,000 in investments in the stock market. Advising the UML students are faculty members and two alums who work in the financial industry. The students and their advisers are, standing from left, Steve Rogers, Frank Andrews, Jessica Silva, Scott Wilson, David Ball, Jared Jordan, Eleni Liakakis, Courtney Stephen, Michael Krieger, Didier Bertola and Brian Lesniak. Seated, from left, are Ravi Jain, Steven Freund, John Kattar and Warren Isabelle.

Field Hockey Coach Honored by Sports Illustrated

UML Field Hockey Head Coach Shannon Hlebichuk is featured in the February edition of Sports Illustrated as one of its "Faces In the Crowd." Hlebichuk is the third UML coach or student-athlete to receive such national recognition since 2004.

Hlebichuk was named the NCAA Division II Coach of the Year by the National Field Hockey Coaches Association for the third time in five years following another sterling season. She guided the



▲ Shannon Hlebichuk

River Hawks to a 19-3 record this fall, which included Northeast-10 Conference tournament and regular season championships. She was named the NE-10 Coach of the Year for the fifth straight time. In six years as head coach, Hlebichuk and the River Hawks have compiled a 100-31 record, which includes five straight NE-10 Tournament titles and the 2005 national championship.

UML Libraries Begin Project to Digitize Research Materials

Documents Will Be Available to All Via the Internet

The UMass Lowell libraries have embarked on an ambitious, long-term project to digitize thousands of books, professional journals and papers that anyone within or outside the University may access from the Internet free of charge.

The project is part of an effort by the Boston Library Consortium (BLC), an association of 19 academic and research libraries located in Massachusetts, Connecticut, New Hampshire and Rhode Island. Founded in 1970, the organization, of which UMass Lowell is a member, is dedicated to sharing human and information resources to advance research and learning.

The BLC is partnering with the Open Content Alliance (OCA) in building this freely accessible library of digital materials from all of its members. The OCA is the textual wing of the Internet Archive (archive.org), a non-profit founded by Internet entrepreneur Brewster Kahle as a vast, freely accessible multimedia collection that includes websites, audio, video and, now, books.

OCA includes institutions such as the University of Toronto, the University of California, the Library of Congress, the Smithsonian Institution, the New York Public Library and the Biodiversity Heritage Libraries.

The scanning center, the heart of the BLC partnership, is located at the Boston Public Library.



▲ Brewster Kahle, founder of the Internet Archive, describes the digitization process to UML Libraries Director Pat Noreau at the opening ceremonies of the Scanning Center at the Boston Public Library.

Pat Noreau, UML's director of Libraries and Information Resources, says, "We're excited about our partnership with the OCA to build a freely accessible library of digital materials. This will give us an opportunity to share our unique research materials with a worldwide community of users."

The first step, Noreau says, is to determine which of the University's materials to digitize. She has appointed a committee to make those decisions. Three collections under consideration at the outset are papers compiled by Chancellor Marty Meehan during his years in Congress, books from the Centers for Lowell History and the libraries' archival journal collections. The plan is to begin the actual digitizing this year.

Once the material is on the Internet, it can be accessed by anyone. Passages or entire works could be read online or printed. Anything that the UML libraries digitize will also be on file in a CD format.

Industrial Safety of Nanoheaters Studied

While the potential explosion hazards of micron- and submicron-size particles in coal mines, in the food and pharmaceutical industries and in powder-processing facilities are well known, safety guidelines do not exist for dealing with nano- (billionth-of-a-meter-) size particles. Two UMass Lowell engineering professors are currently tackling this issue as part of an international research collaboration.

Profs. Julie Chen of the Department of Mechanical Engineering and Zhiyong Gu of the Department of Chemical Engineering hope to better understand and mitigate the risk of accidental fire or explosion during the processing, handling and transportation of nanoscale particles, wires, fibers and films. Their co-researchers include Teiichi Ando of Northeastern University, Peter Wong of Tufts University and Haris Doumanidis and Claus Rebholz of the University of Cyprus. The U.S. group's research project recently received a \$589,775 grant from the National Science Foundation.

Specifically, their study will focus on "nanoheaters," composite structures of exothermically reactive (heat-giving) materials arranged in various geometries that provide heat in a controlled manner.

"We see potential applications of nanoheaters in processing, actuation and biomedical fields," says Chen. "For example, as devices get smaller and involve mixtures of materials, say, metals with biological agents such as DNA or ceramics with polymers, you can't just throw the whole

thing in a furnace or oven to make it or use it. Not only is this time-consuming and energy-inefficient—heating up the whole product and then cooling it down—the process can also destroy the lower-temperature materials, that is the biological or polymer component. For actuation and biomedical applications, the key is to provide a rapid, localized triggering mechanism."

She adds: "Nanoheaters are a new concept developed and patented by our collaborative group. The federal government is very interested in ensuring that the appropriate environmental, health and industrial safety issues are being studied in parallel with all the new developments in nanotechnology."

Chen, Gu and their colleagues are trying to understand how to design and fabricate these nanoheaters so they have precise control over the nanoheaters' initiation and the rate and total amount of heat released.

"Our goal is to understand the initiation process and to design safety features, such as separation barriers, to prevent any undesired initiation of the nanoheaters while in storage," says Gu. "Our research should also give us general insight into potential industrial safety issues for other nanosize materials."



▲ Julie Chen



▲ Zhiyong Gu

Disabled Youngsters Play Video Games Designed by UML Students



Youngsters at the Franciscan Hospital for Children's Kennedy Day School in Brighton recently got a chance to play and enjoy computer video games thanks to students in Asst. Prof. Fred Martin's Software Engineering class. Martin and his students visited the school to present several simple, interactive games that the students had developed specifically with the children's multiple physical and developmental disabilities in mind.

M2D2 Holds Open House for Entrepreneurs and Inventors

The Massachusetts Medical Device Development Center (M2D2) recently hosted an introductory open house for entrepreneurs, inventors and executives of small businesses in the medical device industry. The event was designed to educate them on M2D2's services, including how the Center can help access federal funding to grow their ventures through the U.S. National Institutes of Health's Small Business Technology Transfer (STTR) program.

About 20 local businesses and industry groups participated in the half-day meeting held Jan. 16 at Wannalancit Mills. "The response from the companies present was very positive," says M2D2 Co-Director Stephen McCarthy. "Many of them said they're going to apply for STTR funding

through the Center."

M2D2 is a joint venture of the Lowell and Worcester campuses of the University of Massachusetts, in partnership with MassMEDIC, medical device companies and investment firms, and with support from the Massachusetts Technology Collaborative. The Center assists emerging medical device companies by providing technical expertise in business planning, development of product prototypes and clinical testing to create "proofs of concept" ready for commercialization.

The next deadline to apply for STTR grants is April 7. For more information, visit www.uml.edu/m2d2 or contact McCarthy at stephen_mccarthy@uml.edu.



▲ Attendees at the M2D2 business open house included, from left, Robert Kispert of the Massachusetts Technology Collaborative's John Adams Innovation Institute, King Wang of Agiltron, M2D2 Co-Director Sheila Noone, M2D2 industrial liaison Anne-Marie Baker, M2D2 steering committee chair Hooks Johnston, M2D2 Co-Director Stephen McCarthy, and Stuart Cogan of EIC Laboratories Inc.

D.A.'s Office Names School Safety Award for Chancellor Meehan



▲ The Middlesex County District Attorney's Office recently named its school safety award in honor of Chancellor Marty Meehan, who worked in the office as an assistant district attorney prior to being elected to Congress. The honor, called the Martin T. Meehan Educational Leadership Award, was presented to Tewksbury Public Schools at a ceremony in Cambridge. Tewksbury was selected for the award, according to the district attorney's office, for its work with the office, local police and partners in the community to make student and staff safety a priority. Successful efforts include implementing anti-bullying, security and emergency preparedness programs. Shown at the event, from left, are District Attorney Gerry Leone, Meehan, Tewksbury Superintendent of Schools Christine McGrath, Tewksbury School Committee members Scott Consaul and Joe Russell, and Assistant District Attorney and General Counsel Chris Doherty.

Spotlight on Immigrant Stories of Lowell



▲ Patrick Chhoy, a member of the CITA summer team, makes a grand entrance to the red-carpet premiere of the team's video, "Immigrant Stories of Lowell," held at the Revolving Museum last fall. Chhoy is greeted by fellow team members, from left, Thuquynh Dinh and Yingchan Zhang, and CITA team manager Patricia Coffey. The video, which captured 25 Lowell immigrants' stories, was produced by five area high school students and five UMass Lowell graduate students. The program was funded by the University's Committee on Industrial Theory and Assessment (CITA), co-chaired by Profs. Robert Forrant and Linda Silka. For more information, go to www.uml.edu/centers/CFWC/2007%20CITA%20Project/_home.htm.

Tripathy Fellows Honored for Outstanding Research

Two UMass Lowell doctoral candidates, Yanping Wang and Dingsong Feng in the Chemistry Department's polymer science program, were awarded 2007 Tripathy Memorial Graduate Fellowships in recognition of their academic accomplishment and multidisciplinary research in the areas of materials science and polymer science. Each award consists of a \$6,000 research stipend for the summer, plus an optional \$750 in travel funds to participate in a national meeting of the awardee's choice during the academic year.

Wang and Feng are currently working in industry post-doctoral positions at Konarka Technologies in Lowell and Henkel Corporation in Rocky Hill, Conn., respectively.

Now in its fifth year, the fellowship is given in memory of the late Sukant K. Tripathy, an internationally recognized leader and renowned researcher in materials science and the founding director of the Center for Advanced Materials. He was a professor of chemistry and also served as the University's provost and vice chancellor for academic affairs.

For more information about the Tripathy Memorial Graduate Fellowship, visit www.uml.edu/stage/tripathyfellowship.



▲ From left: Yanping Wang, Chancellor Marty Meehan, Dingsong Feng and Prof. Jayant Kumar at the annual Tripathy Memorial Symposium.

River Hawks Open Season on a Tear, Confounding Predictions

Team Has Winning Record, Strong National Ranking

No one expected this. And even if the train slows down a week or 10 days from now, it will have to go down as a pretty good ride.

The UMass Lowell River Hawks hockey team, which had lost several key players prior to the season's opener in the face of uncertainty over the program's future, has run off a string of victories and is now ranked among the top teams in the nation.

Coming off its Jan. 17-18 games against Boston College and UMass Amherst, the team had an overall record of 11-6-4 and was 6-6-4 in its conference, Hockey East. Following a mediocre start to the season—4-4-4 through November—the River Hawks, through the Amherst game, had won seven of their last 10 contests. They are currently ranked 15th in the country.

"I think it's an amazing feat, what these kids have accomplished," coach Blaise MacDonald told reporters going into the BC game. "They've played very well. I'm happy for them, but they know there's so much unfinished business ahead."

The team's impressive home record, 8-2-1 following the Jan. 19 Amherst game, may be a response to the strong groundswell of fan support it has had since the start of the season.

"The Chancellor made certain the program assessment done last year ended with the hockey program in a much better position to achieve success," says Athletics Director Dana Skinner. "Still, it's the players and coaches that had to do the heavy lifting. The team played a major role in the See You at the Tsongas [program] once again becoming a major part of campus life."

However the team finishes this season, there are promising signs for the future. Of the six freshman newcomers, five had played in all of the team's first 19 games. Through that time, the group as a whole had accounted for 42 points—17 goals and 25 assists—more than a fourth of the River Hawks' offensive output.



▲ The River Hawks have had been plenty to celebrate this season.



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